DAC

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: MAIL STOP PETITION, COMMISSIONER FOR PATENTS, P.O. Box 1450, Alexandria, VA 22313-1450

Barbara Muller	Barbara Muller	4-9-04
Name	Signature	Date

#18

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Tung Ming Fong *et al.*	
Serial No.:	09/581,894 – Case No.: 20146P	Art Unit: 1646
Filed:	August 21, 2000	Examiner: Elizabeth Kemmerer
For:	C-TERMINAL REGION OF AGOUTI RELATED TRANSCRIPT (ART) PROTEIN	

MAIL STOP PETITION
COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION UNDER 37 CFR § 1.137(b)

Sir:

The Applicants petition for revival of this application for patent which had become abandoned unintentionally. The applicants assert that the entire delay in filing the required reply from the due date for the reply until the filing of a grantable petition pursuant to 37 CFR § 1.137(b) was unintentional.

Enclosed are the following:

1. Fee Transmittal (in duplicate)
2. Amendment under 37 C.F.R. § 1.111 in response to the outstanding Office Action
3. Statement establishing unintentional delay
4. Supplemental Information Disclosure Statement

STATEMENT

The facts and circumstances set out below are believed to establish that the present application for patent had become abandoned unintentionally.

On August 14, 2002, a non-final Office Action (Paper No. 12) was mailed to the applicants' attorney of record at the time.

Thereafter, Ms. Finnegan was assigned as attorney to the present application. On December 6, 2002, she submitted by fax an Information Disclosure Statement (IDS) and Associate Power of Attorney authorizing her to prosecute the application on behalf of the applicants.

On December 9, 2002, Ms. Finnegan discussed the non-final Office Action with the Examiner by telephone. During the telephonic conference, she agreed to submit a formal response and the Examiner promised telephone her if there were any minor issues that needed to be resolved before allowance.

On December 10, Ms. Finnegan separately sent by mail (1) a copy of the IDS and Associate Power of Attorney, which had been submitted by fax on December 6, 2002, and (2) an Amendment under 37 C.F.R. § 1.111 in response to the non-final Office Action and a fee transmittal authorizing payment for a one month extension of time. A copy of the amendment and fee transmittal are provided herewith as Exhibit A. Enclosed is a photocopy of the postcard receipt for the IDS which the USPTO mailroom acknowledged it received on December 16, 2002, (Exhibit B) and a photocopy of the postcard receipt for the amendment and fee transmittal which the USPTO mailroom acknowledged it received on December 16, 2002 (Exhibit C).

On April 16, 2003, Ms. Finnegan submitted a supplemental IDS. Enclosed is a photocopy of the postcard receipt in which the USPTO mailroom acknowledged it received the supplemental IDS on April 16, 2003, (Exhibit D).

On April 8, 2003, a Notice of Abandonment for failing to respond to the non-final office action was mailed.

On September 24, 2003, the Examiner mailed a summary of the telephonic interview that had been held on December 9, 2002.

On March 9, 2004, the present application was transferred to me, the undersigned attorney. Ms. Finnegan asked me at the time of the transfer to send a supplemental IDS to the Examiner disclosing several citations she had recently become aware of and to inquire as to the status of the present application.

On March 10, 2004, an Associate Power of Attorney appointing the undersigned as an associate attorney for the present case was faxed to the Examiner. Also on March 10, 2004, I obtained a status report from the USPTO PAIR system which indicated that the present application had become abandoned for failure to respond to an Office Action and that a Notice of Abandonment had been mailed on April 8, 2003. The status report also indicated that the amendment mailed December 10, 2002, and the supplemental IDS mailed April 16, 2003, had not been entered into the file. By implication, the missing entries suggested that the amendment and supplemental IDS had not been received by the USPTO. However, postcard receipts had been obtained from the USPTO mailroom acknowledging receipt of the amendment and the supplemental IDS on December 16, 2002, and April 21, 2003, respectively.

On March 11, 2004, I telephoned the Examiner to discuss the status of the present application. I told the Examiner that an amendment to the August 14, 2002, Office Action had been mailed December 10, 2002, and a supplemental IDS had been mailed April 16, 2003, but that neither appeared in the PAIR status report. I also told the Examiner that it appeared that the Notice of Abandonment had not been received because it was not our file for the present application. The Examiner said that the file for the present application had been sent to storage but that she would request that the file for present application be returned from storage. The Examiner said that when she got the file for the present application back, she would look through its file wrapper to see whether it contained the amendment mailed December 10, 2002.

On March 25, 2004, the Examiner telephoned me to tell me that she had received the file for the present application from storage and that a review of its file wrapper showed that while it contained the IDS filed on December 6, 2002, by fax and the IDS mailed December 10, 2002, it did not contain the amendment mailed December 10, 2002, or the supplemental IDS mailed April 16, 2003. Because I had told the Examiner that the file folder I had for the present application did not contain the Notice of Abandonment, the Examiner sent a copy of the Notice of Abandonment that had been mailed April 8, 2003, to me by fax.

Subsequent to the March 25, 2004, telephonic conference with the Examiner, I contacted the Merck docketing department to verify that the Notice of Abandonment mailed April 8, 2003, had not been received. However, a review of the docketing department database entries recorded for the present application revealed that the docketing department had received a Notice of Abandonment for the present application. While the database entry indicates that the Notice of Abandonment had been received, the file for the present application does not contain the Notice of Abandonment nor any notation that the Notice of Abandonment had been received.

The docketing department conducted a search within the department to determine whether the Notice of Abandonment might have been misplaced. The search did not uncover the Notice of Abandonment.

The docketing department has the following policy for handling a Notice of Abandonment. When a Notice of Abandonment is received, the docketing department attaches the notice to the folder for the case, makes a notation on the case folder that the notice has been received, and transfers the case folder with the notice to the applicants' attorney. In this case, there is no copy of the Notice of the Abandonment in the file folder, there is no notation on the file folder indicating the Notice of Abandonment had been received, and Ms. Finnegan does not recall being informed by the docketing department that a Notice of Abandonment had been received. In light of the above, it appears that the Notice of Abandonment mailed April 8, 2004, had been misplaced before it could be brought to the attention of Ms. Finnegan.

The docketing department also follows a system which minimizes the risk that an application will become abandoned unintentionally because of lost or misplaced correspondence. The system requires that for any six month period where there is no correspondence activity between the attorney responsible for an application and the USPTO, a status inquiry notice is sent to the attorney responsible for the application. The status inquiry notice asks the attorney to contact the USPTO to determine the status of the application.

In the present case, after the non-final Office Action had been mailed August 14, 2002, an amendment was mailed December 10, 2002, and a supplemental IDS was mailed April 16, 2003. The time for measuring inactivity would have commenced April 16, 2003. Six months from April 16, 2003, is October 16, 2003. Therefore, on or about October 16, 2003, the docketing department would have sent a status inquiry notice to Ms. Finnegan. However, in the present case, on September 24, 2003, the Examiner mailed a summary of the telephonic conference of December 6, 2002. The summary was received on or about September 30, 2003. Receipt of the summary reset the time for measuring inactivity to begin on or about September 30, 2003. Therefore, in the present case, the earliest a status inquiry notice would have been sent would have been on or about March 30, 2004. However, the present application was discovered to have become abandoned on March 10, 2003, when I reviewed the PAIR status report for the application.

The docketing department also keeps a record of all fees paid to the USPTO. A review of USPTO charges to our account for the present case showed that our account had not been debited the fee for a one month extension of time. Therefore, it appears that the fee

transmittal, which had accompanied the amendment and which the USPTO had acknowledged as being received (Exhibit C), had also been misplaced.

The foregoing is believed to establish that abandonment of the present application had been unintentional. As shown by the stamped receipt (Exhibit C), the applicants' amendment to the non-final Office Action had been timely filed; however, for undetermined reasons, the amendment had failed to reach the Examiner. Because the postcard receipt acknowledging that the amendment had been received by the mailroom at the USPTO had been returned, there was no reason to believe that the amendment had not been received by the Examiner. This is supported by the submission of a supplemental IDS on April 16, 2003. The delay in the present case began when the Notice of Abandonment, which had been received by the docketing department, failed for undetermined reasons to reach Ms. Finnegan. The delay then continued until March 10, 2004, when at which time I saw the PAIRS status report for the present application which reported that the present application had been recorded as abandoned on April 7, 2003 for failure to respond to an outstanding Office Action. The correspondence between Ms. Finnegan and the Examiner on April 16, 2003, and the Examiner and Ms. Finnegan on September 24, 2003, created activity for the present case which prevented the docketing system for identifying cases which might be at risk of becoming abandoned because of inactivity to identify the present case as being at risk for abandonment.

In light of the above, the applicants hereby petition for revival of the present application for patent abandoned unintentionally under 37 C.F.R. § 1.137(b). As established above, the entire delay in filing the required reply from the due date for the required reply until filing of a grantable petition under 37 C.F.R. § 1.137 (b) was unintentional.

Respectfully submitted,

By _____
John David Reilly
Reg. No. 43,039
Attorney for Applicant

MERCK & CO., INC.
P.O. Box 2000
Rahway, New Jersey 07065-0907
(732) 594-6914

Date: April 9, 2004

EXHIBITS

A. Copy of Amendment under 37 C.F.R. § 1.111 mailed December 10, 2002
B. Copy of postcard receipt for IDS mailed December 10, 2002
C. Copy of postcard receipt for amendment mailed December 10, 2002
D. Copy of postcard receipt for supplemental IDS mailed April 16, 2003

Enclosures:

1. Fee Transmittal (in duplicate)
2. Amendment under 37 C.F.R. § 1.111
3. Supplemental IDS

EXHIBIT A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Fong *et al.*		
Serial No.:	09/581,894	Case No.: 20146P	Art Unit: 1646
Filed:	August 21, 2000		Examiner: Kemmerer, E.
For:	C-TERMINAL REGION OF AGOUTI-RELATED TRANSCRIPT (ART) PROTEIN		

The Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

AMENDMENT UNDER 37 C.F.R. §1.111

Sir:

This amendment is in response to the outstanding Office Action mailed August 14, 2002, in the above-identified application, having a THREE (3) month period for response which expired November 14, 2002. Applicants respectfully request the following amendments be entered and the claims considered in light thereof.

A Petition to Extend Time under 37 C.F.R. § 1.136(a) for ONE (1) month, up to and including Monday, December 16, 2002 is enclosed. Please charge the one month extension fee to Deposit Account No. 13-2755. In the event any additional extension of time is required, please treat this paper as a request under 37 C.F.R. §1.136(a) to extend the time as required, and

charge Deposit Account No. 13-2755 the appropriate fee. Please credit any overpayment or charge any fee deficiency to Deposit Account No. 13-2755.

IN THE SPECIFICATION

In the specification on page 1, under the section labeled "CROSS-REFERENCE TO RELATED APPLICATIONS", please delete the text "Not applicable" and add the following priority data:

--This application is a 371 of PCT/US98/26457, filed December 11, 1998, which claims the benefit of U.S. provisional application 60/069,747, filed December 16, 1997.--

IN THE CLAIMS

Please amend claims 2, 6, 8, 10, 12, 14, and 15 with the clean versions provided immediately below to read as follows:

2. (Amended) The fusion protein of claim 1 having an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:1-3, 10-12, and 15-16.

6. (Amended) A method of determining whether a substance is an inhibitor of the binding of an ART polypeptide to a melanocortin receptor where the method comprises:

(a) providing cells expressing the melanocortin receptor;

(b) exposing the cells to a chosen concentration of the melanocyte stimulating hormone in the absence of the ART polypeptide and in the absence of the substance and measuring the amount of melanocyte stimulating hormone binding to the cells to obtain a first value for melanocyte stimulating hormone binding;

(c) exposing the cells to the chosen concentration of melanocyte stimulating hormone in the presence of a chosen concentration of the ART polypeptide and in the absence of the substance and measuring the amount of melanocyte stimulating hormone binding to obtain a second value for melanocyte stimulating hormone binding where the second value for melanocyte stimulating hormone binding indicates that less melanocyte stimulating hormone binding has occurred as compared to the first value for melanocyte stimulating hormone binding;

(d) exposing the cells to the chosen concentration of melanocyte stimulating hormone in the presence of the chosen concentration of ART polypeptide and in the presence of the substance and measuring the amount of melanocyte stimulating hormone binding to obtain a third value for melanocyte stimulating hormone binding;

where, if the third value for melanocyte stimulating hormone binding is greater than the second value, then the substance is an inhibitor of the binding of the ART polypeptide to the melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:1-3, 6-12, and 15-16.

8. (Amended) A method for determining whether a substance is an inhibitor of the binding of an ART polypeptide to a melanocortin receptor where the method comprises:

(a) providing cells expressing a melanocortin receptor;

(b) exposing the cells to an ART polypeptide in the presence and in the absence of the substance under conditions such that if the substance were not present, the ART polypeptide would bind to the melanocortin receptor;

(c) measuring the amount of binding of the ART polypeptide to the melanocortin receptor in the presence and in the absence of the substance;

where a decrease in the amount of binding of the ART polypeptide to the melanocortin receptor in the presence as compared to the absence of the substance indicates that the substance is an inhibitor of the binding of the ART polypeptide to the melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:1-3, 6-12, and 15-16.

10. (Amended) A method for determining whether a substance is an allosteric enhancer of the binding of an ART polypeptide to a melanocortin receptor where the method comprises:

(a) providing cells expressing a melanocortin receptor;

(b) exposing the cells to an ART polypeptide in the presence and in the absence of the substance under conditions such that if the substance were not present, the ART polypeptide would bind to the melanocortin receptor;

(c) measuring the amount of binding of the ART polypeptide to the melanocortin receptor in the presence and in the absence of the substance;

where an increase in the amount of binding of the ART polypeptide to the melanocortin receptor in the presence as compared to the absence of the substance indicates that

the substance is an allosteric enhancer of the binding of the ART polypeptide to the melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:1-3, 6-12, and 15-16.

12. (Amended) A method for determining whether a substance is a functional inhibitor of the antagonistic effect of an ART polypeptide on a melanocortin receptor where the method comprises:

(a) providing cells expressing a melanocortin receptor;

(b) exposing the cells to a melanocyte stimulating hormone selected from the group consisting of: α-melanocyte stimulating hormone, β-melanocyte stimulating hormone, and γ-melanocyte stimulating hormone, in order to activate the melanocortin receptor, leading to the production of cAMP;

(c) exposing the cells to an ART polypeptide in the presence and in the absence of the substance under conditions such that if the substance were not present, the ART polypeptide would inhibit the production of cAMP mediated by the melanocortin receptor;

(d) measuring the amount of cAMP produced the presence and in the absence of the substance;

where an increase in the amount of cAMP produced in the presence as compared to the absence of the substance indicates that the substance is a functional inhibitor of the antagonistic effect of the ART polypeptide on the melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:1-3, 6-12, and 15-16.

14. (Amended) A method of determining whether a substance is an inhibitor of the effect of an ART polypeptide comprising:

(a) providing a *Xenopus* melanophore cell line;

(b) exposing the *Xenopus* melanophore cell line to a chosen concentration of α-melanocyte stimulating hormone in the absence of the ART polypeptide and in the absence of the substance and measuring the amount of pigment dispersion to obtain a first value for pigment dispersion;

(c) exposing the *Xenopus* melanophore cell line to the chosen concentration of α-melanocyte stimulating hormone in the presence of the ART polypeptide and in the absence of the substance and measuring the amount of pigment dispersion to obtain a second value for

pigment dispersion where the second value for pigment dispersion indicates that less pigment has been dispersed as compared to the first value for pigment dispersion;

(d) exposing the *Xenopus* melanophore cell line to the chosen concentration of α-melanocyte stimulating hormone in the presence of the ART polypeptide and in the presence of the substance and measuring the amount of pigment dispersion to obtain a third value for pigment dispersion;

where if the third value for pigment dispersion indicates that more pigment has been dispersed as compared with the second value, then the substance is an inhibitor of the effect of the ART polypeptide;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:1-3, 6-12 and 15-16.

15. (Amended) A method of determining whether a substance is an inhibitor of the binding of an ART polypeptide to a melanocortin receptor comprising:

(a) providing cells expressing the melanocortin receptor;

(b) exposing the cells to a chosen concentration of the melanocyte stimulating hormone and a chosen concentration of the ART polypeptide in the presence and in the absence of the substance and measuring the amount of melanocyte stimulating hormone binding to the cells in the presence and in the absence of the substance;

where an increase in the amount of melanocyte stimulating hormone binding in the presence of the substance indicates that the substance is an inhibitor of the binding of an ART polypeptide to a melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:1-3, 6-12 and 15-16.

STATUS OF CLAIMS:

Claims 1-16 are pending.

Claims 2, 6, 8, 10, 12, 14, and 15 are amended herein.

REMARKS

Applicants respectfully request reconsideration of the application in view of the foregoing amendments and the following remarks.

Applicants thank the Examiner for the courtesy of conducting a telephonic interview on Monday, December 9, 2002. In the interview, Examiner Kemmerer indicated that the claims may be in a condition for allowance subject to the proviso that they be re-drafted to delete claims reading on non-elected inventions. In response thereto, Applicants have amended claims 2, 6, 8, 10, 12, 14, and 15 to read on only those SEQ ID NOs under examination. No new matter has been added.

The specification has been amended to include a cross-reference to related applications PCT/US98/26457 and U.S. provisional application 60/069,747.

Priority

The Office Action states that Applicants have not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. § 371 and 119(e). Specifically, the Office Action states that the application must contain a specific reference to the earlier filed application in the first sentence of the instant application. In response thereto, Applicants have replaced the text "Not applicable" under the section heading "CROSS-REFERENCE TO RELATED APPLICATIONS" with the relevant priority data.

Election/Restrictions

In response to Applicants' election of the species of SEQ ID NO:7 in Paper No. 11, the Examiner has indicated that a search and examination of all sequences that are directed to a fragment of the human ART protein of amino acids 76-132 would not be an undue burden. According to the Office Action, the following SEQ ID NOs were searched and examined: 1-3, 6-8, 15 and 16. Examiner Kemmerer confirmed this statement in a telephonic interview on December 9, 2002.

With respect to SEQ ID NO:8, it is noted that this species consists of an ART polypeptide containing amino acids 1-26 and 75-131 of the ***mouse*** ART protein. Consequently, Applicants propose that a search of SEQ ID NO:8 would necessarily include a search of SEQ ID NOs: 9-12, which also consist of ART polypeptides containing amino acids 1-26 and/or 75-131 of the ***mouse*** ART protein. Therefore, Applicants have amended the claims to include SEQ ID NOs: 1-3, 6-12, 15, and 16. In view of the above recitation, it is believed that all claims reading on non-elected species have been amended to conform with the election.

Claim Objections

Claims 1, 2, and 4-16 are objected to because the claims embrace non-elected inventions. In response thereto, Applicants have amended claims 2, 6, 8, 10, 12, 14 and 15 to embrace only those species currently under examination, as stated above. In view of the above discussion, in which Applicants propose that SEQ ID NOs: 1-3, 6-12, 15 and 16 are included in the current election of species, it is believed that independent claims 1 and 4 are in condition for allowance as originally drafted. Additionally, Applicants respectfully submit that the amendments to claims 2, 6, 8, 10, 12, 14 and 15 overcome the objection to the remaining dependent claims. Accordingly, Applicants submit that all claims are in condition for allowance and respectfully request that the objection to the claims be removed and the claims allowed.

Claim 3 is objected to as being dependent upon a rejected base claim, namely claim 2. The Office Action indicates that claim 3 would be allowable if drafted in independent form. Applicants submit that the amendment to claim 2, which deletes reference to all non-elected species, renders this objection moot. Accordingly, Applicants assert that claim 3 is in condition for allowance and respectfully request that the objection to this claim be removed and the claim allowed.

Summary

Applicants respectfully submit that all outstanding rejections have been overcome by the amendments herein and remarks above. Accordingly, Applicants maintain all claims are in condition for allowance and a favorable action on the merits is earnestly solicited.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on the date appearing below.

MERCK & CO., INC.

By Alysia Finnegan Date 12/10/02

Respectfully submitted,

By Alysia Finnegan

Alysia Finnegan
Reg. No.: 48,878
Attorney for Applicants

MERCK & CO., INC.
P.O. Box 2000
Rahway, NJ 07065-0907
(732) 594-2583

Date: December 10, 2002

VERSION OF AMENDED CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

2. (Amended) The fusion protein of claim 1 having an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:[1-5, 10-19, and 20] 1-3, 10-12, and 15-16.

6. (Amended) A method of determining whether a substance is an inhibitor of the binding of an ART polypeptide to a melanocortin receptor where the method comprises:

(a) providing cells expressing the melanocortin receptor;

(b) exposing the cells to a chosen concentration of the melanocyte stimulating hormone in the absence of the ART polypeptide and in the absence of the substance and measuring the amount of melanocyte stimulating hormone binding to the cells to obtain a first value for melanocyte stimulating hormone binding;

(c) exposing the cells to the chosen concentration of melanocyte stimulating hormone in the presence of a chosen concentration of the ART polypeptide and in the absence of the substance and measuring the amount of melanocyte stimulating hormone binding to obtain a second value for melanocyte stimulating hormone binding where the second value for melanocyte stimulating hormone binding indicates that less melanocyte stimulating hormone binding has occurred as compared to the first value for melanocyte stimulating hormone binding;

(d) exposing the cells to the chosen concentration of melanocyte stimulating hormone in the presence of the chosen concentration of ART polypeptide and in the presence of the substance and measuring the amount of melanocyte stimulating hormone binding to obtain a third value for melanocyte stimulating hormone binding;

where, if the third value for melanocyte stimulating hormone binding is greater than the second value, then the substance is an inhibitor of the binding of the ART polypeptide to the melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:[1-19 and 20] 1-3, 6-12, and 15-16.

8. (Amended) A method for determining whether a substance is an inhibitor of the binding of an ART polypeptide to a melanocortin receptor where the method comprises:

(a) providing cells expressing a melanocortin receptor;

(b) exposing the cells to an ART polypeptide in the presence and in the absence of the substance under conditions such that if the substance were not present, the ART polypeptide would bind to the melanocortin receptor;

(c) measuring the amount of binding of the ART polypeptide to the melanocortin receptor in the presence and in the absence of the substance;

where a decrease in the amount of binding of the ART polypeptide to the melanocortin receptor in the presence as compared to the absence of the substance indicates that the substance is an inhibitor of the binding of the ART polypeptide to the melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:[1-19 and 20] 1-3, 6-12, and 15-16.

10. (Amended) A method for determining whether a substance is an allosteric enhancer of the binding of an ART polypeptide to a melanocortin receptor where the method comprises:

(a) providing cells expressing a melanocortin receptor;

(b) exposing the cells to an ART polypeptide in the presence and in the absence of the substance under conditions such that if the substance were not present, the ART polypeptide would bind to the melanocortin receptor;

(c) measuring the amount of binding of the ART polypeptide to the melanocortin receptor in the presence and in the absence of the substance;

where an increase in the amount of binding of the ART polypeptide to the melanocortin receptor in the presence as compared to the absence of the substance indicates that the substance is an allosteric enhancer of the binding of the ART polypeptide to the melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:[1-19 and 20] 1-3, 6-12, and 15-16.

12. (Amended) A method for determining whether a substance is a functional inhibitor of the antagonistic effect of an ART polypeptide on a melanocortin receptor where the method comprises:

(a) providing cells expressing a melanocortin receptor;

(b) exposing the cells to a melanocyte stimulating hormone selected from the group consisting of: α-melanocyte stimulating hormone, β-melanocyte stimulating hormone, and γ-melanocyte stimulating hormone, in order to activate the melanocortin receptor, leading to the production of cAMP;

(c) exposing the cells to an ART polypeptide in the presence and in the absence of the substance under conditions such that if the substance were not present, the ART polypeptide would inhibit the production of cAMP mediated by the melanocortin receptor;

(d) measuring the amount of cAMP produced the presence and in the absence of the substance;

where an increase in the amount of cAMP produced in the presence as compared to the absence of the substance indicates that the substance is a functional inhibitor of the antagonistic effect of the ART polypeptide on the melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:[1-19 and 20] 1-3, 6-12, and 15-16.

14. (Amended) A method of determining whether a substance is an inhibitor of the effect of an ART polypeptide comprising:

(a) providing a *Xenopus* melanophore cell line;

(b) exposing the *Xenopus* melanophore cell line to a chosen concentration of α-melanocyte stimulating hormone in the absence of the ART polypeptide and in the absence of the substance and measuring the amount of pigment dispersion to obtain a first value for pigment dispersion;

(c) exposing the *Xenopus* melanophore cell line to the chosen concentration of α-melanocyte stimulating hormone in the presence of the ART polypeptide and in the absence of the substance and measuring the amount of pigment dispersion to obtain a second value for pigment dispersion where the second value for pigment dispersion indicates that less pigment has been dispersed as compared to the first value for pigment dispersion;

(d) exposing the *Xenopus* melanophore cell line to the chosen concentration of α-melanocyte stimulating hormone in the presence of the ART polypeptide and in the presence of the substance and measuring the amount of pigment dispersion to obtain a third value for pigment dispersion;

where if the third value for pigment dispersion indicates that more pigment has been dispersed as compared with the second value, then the substance is an inhibitor of the effect of the ART polypeptide;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:[1-19 and 20] 1-3, 6-12 and 15-16.

15. (Amended) A method of determining whether a substance is an inhibitor of the binding of an ART polypeptide to a melanocortin receptor comprising:

(a) providing cells expressing the melanocortin receptor;

(b) exposing the cells to a chosen concentration of the melanocyte stimulating hormone and a chosen concentration of the ART polypeptide in the presence and in the absence of the substance and measuring the amount of melanocyte stimulating hormone binding to the cells in the presence and in the absence of the substance;

where an increase in the amount of melanocyte stimulating hormone binding in the presence of the substance indicates that the substance is an inhibitor of the binding of an ART polypeptide to a melanocortin receptor;

where the ART polypeptide has an amino acid sequence selected from the group consisting of: SEQ.ID.NOs.:[1-19 and 20] 1-3, 6-12 and 15-16.

EXHIBIT B

P&T OFFICE ACKNOWLEDGEMENT

ATTORNEY	DATE
Alysia A. Finnegan	12-10-2002
CASE NUMBER/	SERIAL NUMBER
20146P	09/581,894

DATE FILED
August 21, 2000

APPLICANT
Fong, et al.

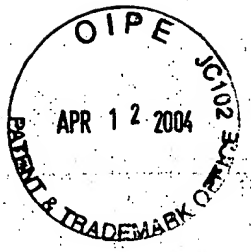
EXPRESS MAIL NO.

The Patent & Trademark Office acknowledges and has stamped hereon, the date of the receipt of the items checked below:

- ☐ AMENDMENT
- ☐ APPEAL AND FEE
- ☐ ASSIGNMENT
- ☐ BRIEF
- ☐ CERTIFICATE OF CORRECTION
- ☐ FINAL FEE
- ☐ LETTER
- ☐ REQUEST FOR F.F. LICENSE
- ☑ INFORMATION DISCLOSURE STATEMENT - (Copy)
- ☒ PTO 1449 & REFERENCES (Copy)
- ☐ PETITION FOR EXTENSION OF TIME & FEE
- ☐ INVITATION TO CORRECT
- ☐ DEMAND-CHAPTER II & FEE SHEET

F4424

EXHIBIT C



P&T OFFICE ACKNOWLEDGEMENT

ATTORNEY	DATE
Alysia A. Finnegan	12-10-2002

CASE NUMBER/	SERIAL NUMBER
20146P	09/581,894

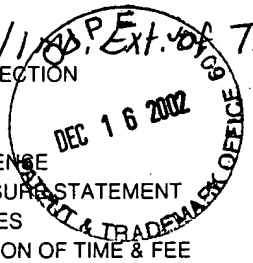
DATE FILED
August 21, 2000

APPLICANT
Fong, et al.

EXPRESS MAIL NO.

The Patent & Trademark Office acknowledges, and has stamped hereon, the date of the receipt of the items checked below:

- [X] AMENDMENT
- [ ] APPEAL AND FEE
- [ ] ASSIGNMENT
- [X] ~~Check~~ Fee Sheet / 1 mo. Ext. of Time
- [ ] CERTIFICATE OF CORRECTION
- [ ] FINAL FEE
- [ ] LETTER
- [ ] REQUEST FOR F.F. LICENSE
- [ ] INFORMATION DISCLOSURE STATEMENT
- [ ] PTO 1449 & REFERENCES
- [ ] PETITION FOR EXTENSION OF TIME & FEE
- [ ] INVITATION TO CORRECT
- [ ] DEMAND-CHAPTER II & FEE SHEET



F4424

EXHIBIT D

P&T OFFICE ACKNOWLEDGEMENT

ATTORNEY	DATE
Alysia A. Finnegan	4/16/2003

CASE NUMBER/	SERIAL NUMBER
20146P	09/581,894

DATE FILED
August 21, 2000

APPLICANT
Tung Ming Fong, et al.

EXPRESS MAIL NO.

The Patent & Trademark Office acknowledges, and has stamped hereon, the date of the receipt of the items checked below:

- ☐ AMENDMENT
- ☐ APPEAL AND FEE
- ☐ ASSIGNMENT
- ☐ BRIEF
- ☐ CERTIFICATE OF CORRECTION
- ☐ FINAL FEE
- ☐ LETTER
- ☐ REQUEST FOR F.F. LICENSE
- ☒ INFORMATION DISCLOSURE STATEMENT
- ☒ PTO 1449 & REFERENCES (Supplemental)
- ☐ PETITION FOR EXTENSION OF TIME & FEE
- ☐ INVITATION TO CORRECT
- ☐ DEMAND-CHAPTER II & FEE SHEET

F4424

FEE TRANSMITTAL

Patent fees are subject to annual revision.

TOTAL AMOUNT OF PAYMENT	$110

Complete if Known	
Application Number	09/581,894
Filing Date	August 21, 2000
First Named Inventor	Fong, et al.
Examiner Name	Kemmerer, E.
Group Art Unit	1646
Attorney Docket Number	20146P

METHOD OF PAYMENT (Check one)

☒ Deposit Account

Deposit Account Number: 13-2755

Deposit Account Name: Merck & Co., Inc.

The Commissioner is authorized to:

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) during the pendency of this application

FEE CALCULATION

1. BASIC FILING FEE

Large Fee Code	Entity Fee ($)	Fee Description	Fee Paid
1001	740	Utility filing fee	
1002	330	Design filing fee	
1004	740	Reissue filing fee	
1005	160	Provisional filing fee	

SUBTOTAL(1) $0

2. EXTRA CLAIM FEES

			Extra		Fee from below	Fee Paid
Total Claims		- 20 ** =	0	x	$18 =	0
Independent Claims		- 3 ** =	0	x	$84 =	0
Multiple Dependent Claims					$280 =	

***or number previously paid, if greater; For Reissues, see below*

Large Fee Code	Entity Fee ($)	Fee Description
1202	18	Claims in excess of 20
1201	84	Independent claims in excess of 3
1203	280	Multiple dependent claim, if not paid
1204	84	**Reissue independent claims over original patent
1205	18	**Reissue claims in excess of 20 and over original patent

SUBTOTAL(2) $0

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Fee Code	Entity Fee ($)	Fee Description	Fee Paid
1051	130	Surcharge - late filing fee or oath	
1812	2,520	For filing a request for *ex parte* reexamination	
1251	110	Extension for reply within first month	110
1252	400	Extension for reply within second month	
1253	920	Extension for reply within third month	
1254	1,440	Extension for reply within fourth month	
1255	1,960	Extension for reply within fifth month	
1401	320	Notice of Appeal	
1402	320	Filing a brief in support of an appeal	
1403	280	Request for oral hearing	
1452	110	Petition to revive - unavoidable	
1453	1,280	Petition to revive - unintentional	
1501	1,280	Utility issue fee (or reissue)	
1502	460	Design issue fee	
1460	130	Petitions to the Commissioner	
1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	Submission of Information Disclosure Statement	
8021	40	Recording each patent assignment per property (times number of properties)	
1809	740	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	740	For each additional invention to be examined (37 CFR 1.129(b))	
1801	740	Request for Continued Examination (RCE)	
Other fee (specify)			
Other fee (specify)			

SUBTOTAL(3) $110

SUBMITTED BY

Typed or Printed Name	Alysia A. Finnegan			Reg. Number	48,878
Signature	Alysia Finnegan	Date	12/10/2002	Deposit Account User ID	

Application Number:	09/581,894
Filing Date:	08/21/2000
First Named Inventor:	Fong, et al.
Group Art Unit:	1646
Examiner Name:	Kemmerer, E.
Attorney Docket Number:	20146P

FIRST CLASS MAIL CERTIFICATE

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231, ON THE DATE APPEARING BELOW.

MERCK & CO., INC.

MAILED BY Alyssa Finazzo DATE 12/10/02